

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. Claims 22-34 have been cancelled. Claims 1-3, 6, 9-11, 14, 18, and 19 have been amended. Claims 35-57 have been added. Claims 1-21 and 35-57 are now pending in this application.

I. Allowable Subject Matter

In Section 5 of the Office Action, the Examiner notes that Claims 20 and 21 are allowable over the prior art if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants thank the Examiner for noting the allowable subject matter. However, Applicants have elected to amend Claim 19 from which Claims 20 and 21 depend. Applicants respectfully submit that Claim 19 is also allowable over the prior art.

II. Rejection of Claims 1-18, 22-26, and 29-34 Under 35 U.S.C. § 103(a)

In Section 3 of the Office Action, Claims 1-18, 22-26, and 29-34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent Publication No. 2002/0019231 to Palenius et al. (Palenius) in view of US Patent No. 6,944,143 to Bayley et al. (Bayley). Applicants assume that the Examiner intended to reference US Patent No. 6,360,098 to Ganesh et al. (Ganesh) instead of Bayley because Ganesh is referenced in the discussion and appears to correspond with the Examiner's statements. Claims 22-26 and 29-34 have been canceled rendering these rejections moot.

Independent Claim 1, as amended and with emphasis added through underlining, recites:

providing information associated with a plurality of radio access means in a communications system to a network element of the communications system, said information based on a plurality of parameters associated with each of the plurality of radio access means for serving a mobile station, wherein a radio access means of the plurality of radio access means includes a plurality of cells, and further

wherein the plurality of radio access means use different communication methods;

ordering the radio access means based on said information;

selecting a target radio access means of the plurality of radio access means based on the ordering; and

sending a request to the mobile station to perform compressed mode measurements at the mobile station based on the selected target radio access means, said measurements for selecting a cell associated with the selected target radio access means.

Independent Claim 18, as amended and with emphasis added through underlining, recites:

a plurality of radio access means, said plurality of radio access means configured to provide communication services to said mobile station, a radio access means of the plurality of radio access means including a plurality of cells, wherein the plurality of radio access means use different communication methods;

the network element configured to order the radio access means based on provided information, the provided information associated with the plurality of radio access means and based on a plurality of parameters associated with each of the plurality of radio access means;

the network element further configured to select a target radio access means of the plurality of radio access means based on the ordering; and

the network element further configured to send a request to said mobile station to perform compressed mode measurements based on the selected target radio access means for selecting a cell associated with the selected target radio access means.

New independent Claim 43, with emphasis added through underlining, recites:

a processor configured to order the radio access means based on information associated with a plurality of radio access means and to select a target radio access means of the plurality of radio access means based on the ordering, the information based on a plurality of parameters associated

with each of the plurality of radio access means, the plurality of radio access means including a plurality of cells, wherein the plurality of radio access means use different communication methods to provide communication services to a mobile station; and

a transmitter configured to send the selected target radio access means to the mobile station to perform compressed mode measurements at the mobile station, the compressed mode measurements for selecting a cell associated with the selected target radio access means.

On page 3 of the Office Action, the Examiner states:

However, Palenius et al. does not explicitly disclose that the control node receives information associated with the base stations that is based on a plurality of parameters, including a service priority weight, ordering the base stations based on said information, and performing compressed mode measurements based on said ordering. Ganesh et al. discloses a method and system for determining a neighbor list for a CDMA sector (title).

Thus, the Examiner agrees that Palenius fails to describe “ordering the radio access means based on said information” as recited by Claims 1, 18, and 43. The Examiner looks to Ganesh for this teaching. Applicants respectfully disagree that Ganesh provides any teaching of at least “ordering the radio access means based on said information” where “the plurality of radio access means use different communication methods” as recited by Claims 1, 18, and 43.

Ganesh states:

In a code division multiple access (CDMA) radio communications network (20) having a plurality of cells (24) subdivided into sectors (26), a computer based method (36) and a computing system (34) determine a neighbor list (56) for a selected one of the sectors (26). The sector (26) is subdivided into a plurality of locations (64). For each location (64), a primary pilot channel (88) exhibiting a primary signal quality (92) is distinguished. Secondary pilot channels (120) are identified exhibiting secondary signal qualities (119) within a signal quality threshold window (108) of the primary signal quality (92) of the primary pilot channel. The primary and secondary pilot channels (88 and 120) are included in the

neighbor list (56) for the sector (26) as candidate handoff channels (98). The candidate handoff channels (98) are arranged in a ranked order in the neighbor list (56) such that those candidate handoff channels (98) having a higher rank have a greater likelihood for inclusion in a neighbor set of a mobile station (32) residing in the serving area of the sector (26).

(Abstract, with emphasis added through underlining). Thus, Ganesh teaches rank ordering of a plurality of cells associated with a CDMA system. Ganesh fails to teach, suggest, or describe “ordering the radio access means based on said information” where “the plurality of radio access means use different communication methods” as recited by Claims 1, 18, and 43. The system described by Ganesh includes a single radio access means, a CDMA system. Ganesh does not contemplate ordering a plurality of radio access means. Ganesh only contemplates ordering a plurality of cells associated with a single radio access means. Therefore, Palenius and Ganesh fail to teach, suggest, or describe all of the limitations of Claims 1, 18, and 43.

An obviousness rejection cannot be properly maintained where the references used in the rejection do not disclose all of the recited claim elements. As a result, Applicants respectfully request withdrawal of the rejection of Claims 1, 18, and 43. Claims 2-17, 35-42, and 46-47 depend from one of Claims 1 and 18. Therefore, Applicants respectfully request withdrawal of the rejection of Claims 1-18 and allowance of added claims 35-43 and 46-47.

III. Rejection of Claim 19 Under 35 U.S.C. § 103(a)

In Section 4 of the Office Action, Claim 19 was rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 5,737,705 to Ruppel et al. (Ruppel).

Independent Claim 19, as amended and with emphasis added through underlining, recites:

collecting statistics on handovers from a cell in a communications system to a plurality of other cells in the communications system;

weighting a cell load of each cell of said plurality of other cells by a percentage of handovers from said cell to respective one of said plurality of other cells; and

determining a threshold based on said weighted cell loads, the threshold used to trigger a load based handover from the cell to one of said plurality of other cells.

On page 6 of the Office Action, the Examiner states:

A channel quality parameter, $Q(f)$, is then calculated on each base transmit frequency. The $Q(f)$ values are then ordered (weighted) to indicate the frequency with the lowest $Q(f)$ value (figure 4, items 435, 440). Because the $Q(f)$ value is a function of the number of times a handoff to an adjacent channel has occurred, this aspect of the invention renders the claimed "weighting the cell load of each cell of said plurality of other cells by the percentage of handovers from said cell to respective one of said plurality of other cells". Ruppel et al. does not explicitly disclose determining a threshold based on the weighted cell loads. However, Ruppel et al. does disclose a threshold noted by "H" which indicates a number of handoffs for a particular base station (figure 4, item 450).

Applicants respectfully disagree. Relative to the $Q(f)$ values, Ruppel states:

This $Q(f)$ function is represented by the equation $Q(f) = N(n) * A + M(n) * S + \text{residual power}$. In this equation, $N(n)$ and $M(n)$ are predetermined constants defined for each value of n , where $n = 0, 1, 2, 3 \dots$ with n generally less than 10. $N(n)$ represents a predefined scaling term that is a function of n , the number of occurrences of an event (in the case of $N(n)$, the detection of an adjacent channel frequency assigned) at the base stations which had a number of handoffs to/from the first base greater than a predetermined value H , within a predetermined time interval, T . The term A represents a fixed constant, predefined so as to appropriately weight the $N(n)$ term for the decision. Thus the term $N(n) * A$ will bias the function $Q(f)$ based on the detection of adjacent channel sites for frequency f , which are being used to supply handoffs to or from the site processing a frequency assignment decision. The term $M(n)$ represents a predefined scaling term that is a function of the number of occurrences of the detection of sites assigned a co-channel interfering frequency and which are either a primary site which supports handoffs with the first base and had a number of handoffs greater than a predetermined value H

within the predetermined time interval T , or a secondary site which supports handoffs with a primary site and had a number of handoffs greater than the predetermined value H within the predetermined time interval T . The term S represents a fixed predefined constant, similar to that of A . Thus the term $M(n)*S$ will bias the function $Q(f)$ based on the detection of sites involved in handoffs with the said base and other bases using the same frequency.

(Col. 5, lines 26-54, with emphasis added through underlining). A and S are fixed constants. $N(n)$ is the number of occurrences of the detection of an adjacent channel frequency assigned at the base stations which had a number of handoffs to/from the first base greater than a predetermined value H , within a predetermined time interval, T . $M(n)$ is the number of occurrences of the detection of sites assigned a co-channel interfering frequency. The sites are either a primary site which supports handoffs with the first base or which had a number of handoffs greater than a predetermined value H within the predetermined time interval. Thus, the calculation of $Q(f)$ does not include either a cell load or a percentage of handovers. Therefore, the calculation of $Q(f)$ does not include “weighting a cell load of each cell of said plurality of other cells by a percentage of handovers from said cell to respective one of said plurality of other cells” as recited by Claim 19. Additionally, $Q(f)$ is not a threshold.

Ruppel states that the determination of $Q(f)$ is based on “a number of handoffs greater than a predetermined value H .” (Col. 5, lines 45-46). Ruppel also states:

Although the threshold values H and T are described here as constants, these values could also be functions of other variables (such as the traffic density in the cell and its variability based on day of week, or the time since new cells have been added to the system, or the frequency of updating the frequency plan of each cell, or other statistical parameters collected by the cells representing interference, dropped calls, completed calls, or degraded calls), and such a modification is within the scope of the invention, and may be implemented by a skilled artisan.

(Col. 6, lines 15-25, with emphasis added through underlining). Ruppel does not state that H indicates a number of handoffs. Ruppel states that H is a constant with no description of how it is calculated. Thus, the calculation of H as described by Ruppel also fails to include

“weighting a cell load of each cell of said plurality of other cells by a percentage of handovers from said cell to respective one of said plurality of other cells” as recited by Claim 19. An obviousness rejection cannot be properly maintained where the reference used in the rejection does not disclose all of the recited claim elements. As a result, Applicants respectfully request withdrawal of the rejection of Claim 19.

Claims 44 and 45 also require “weighting a cell load of each cell of said plurality of other cells by a percentage of handovers from said cell to respective one of said plurality of other cells.” Therefore, Applicants respectfully request allowance of added claims 44 and 45.

IV. Allowance of Added Claims 48-57

None of the references cited by the Examiner teach, suggest, or disclose the elements recited in new claims 48 and 53. Neither an anticipation rejection nor an obviousness rejection can be properly maintained where the reference(s) used in the rejection does not disclose all of the recited claim elements. As a result, Applicants respectfully request allowance of claims 48 and 53. Claims 49-52 depend from claim 48 and claims 54-57 depend from claim 53. As a result, Applicants also respectfully request allowance of claims 49-52 and 54-57.

Applicants believe that the present application is in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for

such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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